"glissette" is a reminder to those who knew him that he preferred the works of the great French mathematicians to all others, and would rather read a good text-book in French than one in English.

It used to be a commonplace among Cambridge undergraduates that Besant was the handsomest Senior Wrangler that ever was. Anyhow, he was a very handsome man; so far as his head and face were concerned, he resembled the photographs of Russell Lowell. The left eye and eyebrow were damaged by a mountaineering accident. Above all, his manners were perfect—or as near perfection as human manners can be (curiously enough, his gyp Scott, when I knew them both, was the most gentlemanly gyp in college); no one who had much to do with Besant could help trying to be polite.

Besant was Senior in 1850 (four years before Routh), F.R.S. in 1871, and Sc.D. (Cant.) when that degree was first instituted. He and Routh were the first two to receive it, and he really enjoyed the distinction, though he used to pretend that he accepted it only to please his "womenfolk,"[1] and had to take a cab to the Senate House, lest ribald boys should jeer at his salmon and geranium gown. G. B. M.

NOTES.

We notice with much regret the announcement of the death on June 9 of Prof. T. McKenny Hughes, F.R.S., Woodwardian professor of geology in the University of Cambridge, at eighty-five years of age.

In the list of birthday honours last week we ought to have included the names of Lieut.-Col. A. W. Crossley, F.R.S., and Lieut.-Col. E. F. Harrison, two chemists who have received the distinction of C.M.G. in recognition of valuable services in connection with the war.

Sir William D. Niven, whose death was announced in last week's Nature, was born at Peterhead in 1842. After attending the Grammar School there, he entered King's College, Aberdeen, and graduated in 1861, obtaining the Simpson prize in mathematics. He afterwards entered the University of Cambridge, where he graduated in 1866 Elected to a fellowship in Trinity College, he for some years acted as assistant tutor. For a time he held an appointment at the Royal Military Academy, Woolwich, but he was back again in Cambridge by 1873. In .1883 he succeeded Dr. Hirst as Director of Studies at the Royal Naval College, Greenwich, a post which he held until his retirement in 1903, when he was created K.C.B., having been made C.B in 1897. He was elected a fellow of the Royal Society in 1882, and served for several years on the council of the society, and for a period of two years was vice-president. He was president of the London Mathematical Society in 1908 and 1909. Sir William was the author of numerous papers in mathematics and mathematical physics. He was virtually Clerk Maxwell's literary executor, and prepared and edited his collected works. His services as Director of Naval Education won the high regard of the Service and the attachment of the chiefs of its scientific branches. In recognition of his work, a group of scientific friends presented him with his portrait in 1911, and it is preserved in the collection of the University of Aberdeen.

The death is announced, on June 11, at eighty-six years of age, of Sir W. C. Macdonald, the Chancellor and President of McGill University, and a generous benefactor to education and science in Canada. A list of his chief donations given in the *Times* of June 12 is here summarised. The gifts to McGill University included a fully equipped engineering building, which cost more than 70,000*l.*, besides endowment; a physics building, costing 60,000*l.*; a building for the departments of chemistry, mining, and architecture, costing 100,000*l.*; 30,000*l.* to endow the faculty of law; 18,000*l.* for two chairs of physics; at least 42,000*l.* for the endowment of engineering; 10,000*l.* for a pension fund, and other endowments; also a large area of land close to McGill, and bought for 200,000*l.* for the University. To promote rural education, Sir William Macdonald established four "consolidated schools," one each in Ontario, New Brunswick, Nova Scotia, and Prince Edward Island, all equipped for manual training, household science, and nature-study in practical gardening, as well as for the more conventional subjects, spending about 36,000*l.* on this experiment; and the sequel was the establishment of the Macdonald College at St. Ann's for teachers, farmers, and farmers' wives at a cost of about 600,000*l.* When the college was complete the founder presented it to McGill, along with 400,000*l.* as endowment.

The interim and final reports of the Halakite inquiry have been issued by H.M. Stationery Office (Cd. 8446, price 1*d.*). The general findings of Mr. Justice Shearman, with whom Prof. W. J. Pope sat as assessor, have been widely read but particular interest attaches to Prof. Pope's report. The original specification refers to an explosive having as a basis an admixture of lead nitrate with glycerine, and prescribes hydrocarbons, nitro-compounds, such as collodion or nitrobenzene, and barium and potassium chlorates and nitrates as possible constituents. It is stated that under the working conditions employed the glycerine reacts with the metallic nitrates to form a nitro-compound. Such a claim "is untrue, and the specification is the production of charlatans who seek to conceal the worthless nature of their invention by the use of a scientific terminology." The earlier samples submitted did consist largely of metallic nitrates, the proportions of which varied considerably, but the nitro-compounds were found to be short lengths of Mark I. cordite. Indeed, all samples presented to the court contained manufactured cordite as the common ingredient. Halakite was recommended by its proprietors for use as a smokeless powder for propellent purposes and as a bursting charge for shells. The report points out that explosives of such composition are so sensitive to shock that they cannot be used as high explosive for shell with any reasonable degree of safety, whilst the considerable proportion of metallic nitrates renders them unsuitable for propellent purposes because of low explosive power and dense smoke. A later sample submitted to the French Government in April, 1916, proved to consist of about 98 per cent. of Mark I. cordite, the balance being mainly lead chromate Prof. Pope says that the clumsy nature of the fraud was obvious to the British and French authorities concerned The whole case is an illustration of the stupidity of otherwise astute business men accepting statements of self-styled "inventors," and failing to avail themselves of the advice of an independent expert chemist, which action certainly would have saved large sums of money and the waste of much valuable public time, as well as avoided a depressing public inquiry.

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[1] Perhaps, like the Antiquary, he said "womankind"; I forget.

A JOINT meeting of the Society of Glass Technology with the Faraday Society will be held at the Applied Science Department, the University, Sheffield, on Wednesday, June 20, at 3.30 p.m., when a discussion will take place on "The Choice of Refractory Materials for Use in the Glass Industry." The discussion will be opened by Prof. W. G. Fearnsides, with a paper on "Supplies of Refractory Materials for Use in the Glass Industry."

THE council of the Royal Society of Edinburgh has made the following awards of prizes:—(1) The Makdougall-Brisbane prize to Dr. R. A. Houstoun, for his series of papers on "The Absorption of Light by Inorganic Salts," published in the Proceedings of the society; (2) the Gunning Victoria prize to Sir Thomas Muir, for his series of memoirs upon "The Theory and History of Determinants and Allied Forms," published in the Transactions and Proceedings of the society between the years 1872 and 1915.

THE second annual meeting of the Geological Physics Society was held at the rooms of the Geological Society on May 25, with the president, Prof. Benjamin Moore, in the chair. The following were elected members of the council:—Prof. B. Moore (president), Dr. G. Abbott, Dr. V. Elsden, Dr. Dawson Williams, Messrs. G. W. Bulman, C. H. Grinling, W. F. Gwinnell, E. Haviland, W. H. Richardson, E. K. Robinson, and A. C. Young. Mr. H. Davey was appointed hon. secretary *pro tem.* A discussion on "The Origin of Flints" was opened by the president.

THE battle of Messines opened on June 7 at 3.10 a.m. with the simultaneous explosion of nineteen large mines along a front ten miles in length. The total amount of explosives fired is estimated at about 450 tons, and one of the largest craters was afterwards found to be about one hundred yards in diameter and seventy feet in depth. Several people in and near London, including the Prime Minister, are said to have heard the sound, and a small movement recorded by a seismograph at Shide may have been a result of the explosion. The distance of London from Messines is about 145 miles, and that of Shide about 185 miles.

DR. F. O'B. ELLISON sends us a description of a curious meteorological phenomenon observed by him on June 1 at about 5.45 p.m. G.M.T., on leaving St. Mary's Hospital Medical School. He writes:—"The western sky was covered with a sheet of cirrus of a somewhat patchy appearance. The sun was shining through it strongly, about 20° above the horizon. There was no halo round the sun. About 20° from the zenith, and with its centre apparently at the zenith, was what appeared exactly like a very bright rainbow, in length a quarter of a circle, with the red on its convex border towards the sun. It was brightest when I first saw it, and gradually faded, having disappeared in about fifteen minutes. The bow was of uniform brilliance, with no 'mock sun' upon it, and was of sufficiently striking aspect to attract the attention of some railwaymen working near."

A TELEGRAM from the President of the Republic of Salvador to the Legation in London announces that an earthquake produced by the San Salvador volcano has destroyed a great part of various places in the Department of La Libertad and some in the Department of San Salvador. The capital has suffered considerably. It is estimated that there were forty killed and 100 injured in Armenia and Quezaltepeque, but none at San Salvador. The telegram does not give the date of the disaster, but it was known on June 7 that the volcano of San Salvador was in eruption. The city of San Salvador was founded in 1528, close to the great volcano of the same name. In less than four centuries it has been ruined eleven times by earthquakes, four times in the last century, namely, in 1806, 1815, 1854, and 1873. This recurrence of disastrous earthquakes in the same limited region seems to point to their volcanic origin, for great tectonic earthquakes are subject to constant focal migrations.

THE death is announced, in his seventy-seventh year, of Dr. Arnold Hague, who had been one of the geologists of the U.S. Survey since 1879. He had previously been connected with Clarence King's exploration of the 40th parallel, and with the official survey of the Cordilleras of North America from the Great Plains to the Sierra Nevada. In 1877–78 he was Government geologist of Guatemala, and travelled extensively over that country, especially in the mining and volcanic districts. In 1878 he was engaged by the Chinese Government to examine the gold, silver, and lead mines in northern China. He was best known by his work in the Yellowstone District, and most notably by his investigations of the geysers in connection with the extinct volcanoes. He was a member of the commission appointed by the National Academy of Sciences at the request of the U.S. Government in 1896 to prepare a plan of the national forest reserves. He received honorary doctorates from Aberdeen and Columbia Universities, was a vice-president of several international geological congresses, and in 1910 was president of the Geological Society of America.

LIEUT. ALAN GORDON HARPER, whose death is announced at twenty-eight years of age, was educated at Dulwich and at Magdalen College, Oxford, of which he was a demy. In 1912 he took the honours school in botany, and afterwards the diploma in rural economy. For work on the effects on the timber of defoliation by the caterpillar of the large larch sawfly, *Namatus Erichsoni*, he secured the degree of B.Sc. A preliminary report on this research was made to the British Association at Dundee in 1912, the full work being published in the *Annals of Botany* in 1913. After acting for a year as assistant in the Botanical Department of the University College of North Wales, Lieut. Harper returned to Oxford as demonstrator in the School of Rural Economy, where he carried out a research on the structure of timber as influenced by pressure stimuli (*Quarterly Journal of Forestry*, July, 1914). He also worked on the protomorphic shoots of Pinus, publishing a paper in the same journal in April, 1914. The acceptance of the post of deputy professor of botany in the Presidency College of Madras gave him the attractive opportunity of first-hand acquaintance with Indian vegetation. At the outbreak of war he secured a commission in the R.F.A., and on June 1 of this year he met an instantaneous death on the Western front.

THAT Italy realises the necessity of founding scientific laboratories is evident from a paragraph in a recent number of *L'Economista d'Italia*. So far as can be gathered, the scheme would appear to have been inaugurated by the "National Scientific and Technical Committee," which was formed last year in Milan. At a recent meeting of the industrial section of this committee (on which the leading Italian manufacturers are represented) it was stated that the desire of the committee was to "raise scientific laboratories to the level of similar institutions abroad." Signor Ruffini has already promised one million lire (40,000*l*.), together with an annual donation, and the warm support of the Government and of leading manufacturers is assured. The selection and training of the staffs are to be left to the committee already mentioned. The laboratories will apparently be established at the technical colleges, and will be devoted especially to physical and chemical research. The need for such laboratories is pressing, the committee being firmly convinced that "their efficiency will also depend on the rapidity with which the plan is put into execution, as Italy has every need to have available as soon after the war as possible all the scientific, technical, and industrial resources she can muster with the view of increasing production in the most favourable economic conditions and of improving the quality of her products." The scheme for the creation of the laboratories has formed the subject of a special memorandum, which is not reproduced in the journal mentioned above.

In Memoir No. 91 of the Canadian Department of Mines Mr. E. W. Hawkes publishes an exhaustive monograph on the Labrador Eskimo. The author had already lived three years among the tribe in Alaska, and his previous knowledge of the race was useful, because the ethnological divisions of the Eskimo are geographical rather than cultural. The most interesting point in the inquiry is the proof that these were the people known as the Skraelings mentioned in the Saga of Eric the Red, who describes how the Vikings "saw a great number of skin canoes, and staves were brandished from their boats with a noise like flails, and they were revolved in the same direction in which the sun moves." This is obviously an attempt of the Norse singer to describe the Eskimo kayaks or skin boats. The noise of the double-bladed paddles might well be likened to that of flails. Elsewhere the bard speaks of the Skraeling boats approaching from the south, when all their staves waved in a direction contrary to that of the sun." This is explained by the fact that in the former case the boats were coming from the north, in the second from the south, when the apparent motion of the paddles would necessarily be reversed. The monograph is a valuable addition to the accounts of the Eskimo by E. W. Nelson in the eighteenth annual report of the Bureau of American Ethnology, and by F. Boas in the sixth annual report in the same series.

The April number of the Journal of the Royal Microscopical Society (No. 237) contains an article by Drs. Drew and Griffin on the parasitology of pyorrhœa alveolaris. At least six species of spirochætes, together with numbers of bacteria, were detected. Two species of amœbæ also seem invariably to be present, and their life-cycles were worked out. The authors suggest that mechanical injury seems to play an important part in initiating the condition; once the injury has occurred, the spirochætes probably play the chief part in the disease, causing tissue destruction and the formation of pockets, which then become infected by bacteria. The paper is illustrated with four plates. Two interesting letters written in 1877 by Prof. Abbe to the English microscopist, John Ware Stephenson, relating to the design and production of the first homogeneous immersion microscope objectives, are communicated by Mr. Cheshire to this number.

In the *Psychological Review* (vol. xxiv., No. 3) Mr. Daniel Starch gives the results of his experiments on the similarity of brothers and sisters in mental traits. He wished to find out to what extent children of the same parents are alike in mental characteristics, and to determine whether the similarity, if any, was greater in those mental traits which are directly affected by training in school work than it is in those traits which are not so directly affected. He therefore chose tests of both types, *e.g.* speed and comprehension of reading ability, size of vocabulary, speed and quality of hand-writing, and ability in spelling for one group, and tests of perception, memory, and motor capacity for the other. He found that the resemblance of such children is approximately as great in mental traits as in physical, as found by Prof. Karl Pearson, and that the resemblance was greater in those tests which were less affected by school work. The article seems to corroborate the view that the mental make-up of human beings is as much a matter of heredity as their physical make-up, and that environment plays a relatively small part in producing the resemblance of closely related individuals.

An important memoir on the baboons of Celebes, by Dr. J. Buttikofer, forms part i. of vol. iii of *Zoologische Mededeelingen.* Of these animals the author recognises eight species, which he relegates to the genus Cynopithecus, dividing them into two groups, mainly on cranial characters. Specific characters are based on the general coloration and the shape and coloration of the gluteal callosities. The very complete survey of the literature of this theme, and the numerous coloured plates and text-figures, make this a most welcome contribution.

Mr. Eric B. Dunlop, in *British Birds* for May, records some remarkable instances of polygamy among rooks. In one case he describes two females sharing one nest, incubating side by side in perfect harmony. Both sitting birds were fed in turn by one male, who was welcomed on his approach with food by much wing-shaking, after the fashion of young birds. Later, when the young appeared, this dutiful husband fed both his wives and the youngsters. The writer records two other cases of a like kind. But in these each female had a separate nest. In the same issue Mr. H. F. Witherby gives a further instalment of his valuable notes on moulting. He deals now with the flycatchers and the warblers, giving a very complete history, probably the most complete yet written, of this very interesting and important phase in their life-history, which has hitherto been strangely neglected. As might be supposed, a number of new facts are now placed on record.

Prof. C. Chilton has examined some terrestrial Isopoda from the shore of the Chilka Lake, and his report upon them appears in the Memoirs of the Indian Museum (vol. v.). The name Isopoda, implying resemblance throughout the sevenfold series of legs, suited many, though far from all, of the groups to which Latreille applied it a century ago. It fits the terrestrial and semi-terrestrial, or "maritime," genera. Belonging to the latter set is a species described in 1828, the *Ligia exotica,* Roux, which, in its vast distribution, has not neglected Lake Chilka. "On Barkula I. it is enormously abundant. Though individuals may be found running on the shore at all times of the day and night, even on rocks heated by the midday sun, the species is most active in the morning and evening. It may then be seen in great droves, numbering sometimes hundreds of individuals, all of which move in the same direction." Though usually avoiding water, whether fresh or brackish, a drove meeting a pool will not hesitate to swim across it. Of this species Prof. Chilton says:—"Though it is so common and has been known for many years, it has received only scanty attention at the hands of those who have recorded it, most observers having merely mentioned its occurrence without adding to previous descriptions." No such reproach will be likely to assail the detailed account and illustrations which

Prof. Chilton now supplies. Only one small oversight may be noted. While the text duly explains that in the young the seventh peræon-segment bears no appendages, such appendages are nevertheless displayed in the adjoining figure.

Bulletin No. 4 of the Department of Chemistry, South Australia, contains an interesting account of the marine fibre industry of Spencer's and St. Vincent's Gulfs, near Adelaide. The fibre is derived from *Posidonia australis*, a marine plant of the family Naiadaceæ, to which our familiar pond-weeds (Potamogeton) belong. The fibre consists of the remains of the plant which have been accumulating for centuries, and have become naturally retted through the decay of the soft parts. It is estimated that the workable deposits cover some 240 square miles, and at a yield of 6 lb. of fibre per cubic yard, and an average depth of deposit of 7 ft., this means a yield of 19,200 tons of air-dried fibre per square mile. Attention was first directed to the possibilities of an industry in the fibre in 1902, and now three large companies are at work. The fibre is useful for insulating purposes, the manufacture of bedding, etc. The paper gives an illustrated account of the methods employed for raising the material from the sea, and general details as to the methods of cleaning and preparing the fibre for the market.

Attention is very properly directed in the *Agricultural News* of March 10 to the remarkable progress made in recent years in the agricultural departments of the Windward and Leeward Islands, which progress, it should be pointed out, is largely due to the fostering care and advice of the Imperial Department of Agriculture under the Commissioner, Sir Francis Watts. Starting from small botanic stations, each island has now a well-organised agricultural department, and the various islands are devoting their energies to the economic products most suitable for their particular conditions. The cotton industry in St. Vincent, Montserrat, St. Kitts, and Nevis; the onion-growing activity in Antigua, Montserrat, and the Virgin Islands; limes in Dominica, Grenada, and St. Lucia, are all thriving industries. Mention should also be made of the land settlement and peasant instruction work of the departments in St. Vincent and St. Lucia, which has been attended with great success. Further, in Dominica, in addition to its beautiful botanic garden, there is an excellent system of agricultural education in operation, and the science of horticulture is maintained at a very high level in the island.

We learn from *La Géographie* (vol. xxxi., No. 4) that a small Swedish expedition has left for Juan Fernandez and the Galapagos Islands. The expedition, which is for botanical and zoological work, is under the leadership of Dr. Carl Skottsberg, who was a member of the Swedish Antarctic Expedition of 1901–3. Dr. Skottsberg in 1907–8 led an expedition to Patagonia, the Falkland Islands, South Georgia, and Juan Fernandez. The last scientific expedition to the Galapagos Islands was that of the California Academy of Sciences in 1905–6, when Mr. Alban Stewart made a thorough botanical exploration of the group and a great deal of zoological work was done.

The want of coal which is seriously affecting Norway has already made her turn to the valuable Spitsbergen deposits. According to *La Géographie* (vol. xxxi., No. 4) Bear Island, another unclaimed Arctic land, is now attracting her attention. During last summer a party of Norwegian miners was at work on a coal-seam there which has been known for many years, and several wintered on the island in the hope of having a cargo ready for shipment to Norway this summer. Previous reports on the coal of Bear Island have not indicated very extensive deposits, but the great drawback to mining is the absence of safe anchorage. The Norwegian syndicate appears to consider the construction of a port. A meteorological observatory and wireless station are also proposed. A further discovery of coal in Spitsbergen is reported by a Russian expedition. According to the *Bolletino* of the Royal Italian Geographical Society (vol. vi., Nos. 4–5), the highest seam is near the surface and extends over an area of 450 square kilometres. It is estimated that this coalfield could produce 200,000 tons a year.

In our issue of May 17 we quoted, without comment, from the *National Geographic Magazine*, published by the National Geographic Society of Washington, a forecast that, assuming that there is no immigration, and that the United States will grow as fast during the three centuries ahead of us as Europe grew from 1812 to 1912, the population will amount to nearly 500,000,000 in 2217, or approximately 166 to the square mile. A correspondent writing under the name of "A London Statistician" questions the accuracy of this estimate, mainly on the ground that in certain States the former rate of increase has not been maintained among the American-born population. This fact has been admitted and explained by General Walker (see "Encyclopædia Britannica," eleventh edition, xxvii., 635) on the grounds of a rise in the standard of living, the multiplication of artificial necessities, the extension of a paid domestic service, and the introduction of women into factory labour. Our correspondent shows good reasons for confirming these views, and, in any case, a forecast of this kind is liable to modification by recent events—the probable loss of life in war, a change in the conditions of production and domestic life, and the amount of emigration from European countries—resulting from the world-wide conflict which is now in progress.

The papers, verbal discussion, and written communications contributed to the symposium on refractory materials held at the Faraday Society on November 8, 1916, have now been reprinted from the Transactions in a brochure of 189 pages. A brief account of the meeting was published in these columns on December 7, 1916. The principal additions to the symposium are the following:—(1) A note on the composition of clay and on silica bricks, by Prof. H. Le Chatelier, containing some striking photomicrographs of quartzite and cristobalite; (2) two short papers by Prof. H. B. Cronshaw, one on "The Deterioration of Refractory Materials in the Iron and Steel Industries," the other on "The Standardisation of Refractory Materials used in the Iron and Steel Industries"; and (3) a paper by Mr. R. B. Sosman, of the Geophysical Laboratory, Washington, on the common refractory oxides. The Faraday Society is to be especially congratulated on having obtained Mr. Sosman's contribution, which gives considerable information about the results of experimental inquiry obtained in the Geophysical Laboratory. It deals with the common rock-forming oxides—silica, alumina, lime, magnesia, and the oxides of iron. The last-named offer a research problem quite different in character from that of the other oxides by reason of the fact that their compositions and properties at high temperatures depend upon the pressure of the oxygen in contact with them. Ferric oxide, Fe_2O_3, begins to dissociate as the temperature rises into oxygen and a solid solution containing ferrous iron. At a given temperature the initial dissociation pressure is high, but it drops rapidly as the percentage of FeO in the solid increases, passing through a range in which the pressure falls rather slowly with change of composition, and finally falling rapidly to the dissociation pressure of Fe_3O_4, which is very low. This in turn dissociates into oxygen and a mixture of oxides the character of which has not yet been determined. The properties of FeO are still practically unknown.

In the March–April number of the *Bulletin de la Société d'Encouragement pour l'Industrie Nationale* Prof. Ch. Féry gives some particulars of the work of the optical laboratory of the Ecole de Physique et de Chimie Industrielles at Paris. The present laboratory has been available for students for four years. Before and since its erection many important researches have been carried out, and, more particularly, the experiments undertaken so successfully of recent years by Prof. Féry on optical pyrometry. Prof. Féry is probably the most competent authority on this subject, and his methods may be said to be of almost universal application in works practice. Among other recent investigations may be mentioned the following:—Research on the calorific emission of the sun; note on the solar constant and apparent temperature of the sun; researches on radiation; an absorption spectrophotometer; an electric chronometer; a new thermo-electric calorimeter; the principle of a new method of measuring the velocity of light; and the chemical theory of lead-plate accumulators. The laboratory was the birthplace of the Grassot fluxmeter and the now world-famed Méker burner. This list shows that the laboratory has been keenly alive to industrial and scientific research, as well as to instruction. Special dark-rooms are provided in the laboratory for photometric and other optical experiments, while a balcony allows of experiments being conducted in the open air. Further rooms are provided for work on the optical bench, for the metallography of steel and alloys, and for chemical experiments. Special rooms are provided in the basement, built on masonry foundations, for work where absence of vibration is required. All rooms are carefully heated, lighted, and ventilated. The new electrochemical and physical laboratories and that devoted to the investigation of dyes, the mineralogical collections, the central library, and the lecture-rooms, are all built on modern principles, and directed, like the optics laboratory, with due regard to modern teaching and research requirements.

Messrs. A and C. Black, Ltd., announce for immediate publication "An Introduction to the Physiology and Psychology of Sex," by Dr. S. Herbert. The work will direct attention to the important facts respecting sex, mating, and reproduction, from the physiological and psychological points of view.

OUR ASTRONOMICAL COLUMN.

Comet 1917*b* (Schaumasse).—The following continuation of the ephemeris for Greenwich midnight given in Nature of May 31 has been received from Copenhagen:—

1917	R.A.	Decl.	Log *r*	Log Δ	Mag.
	h. m. s.	° ′			
June 15	9 25 28	+18 24·8			
17	28 2	17 12·3	9·9829	0·0550	10·6
21	32 8	15 12·5	0·0033	0·1071	10·9
25	35 20	13 36·7	0·0238	0·1528	11·3
29	37 59	12 17·5	0·0442	0·1925	11·6
July 3	40 17	11 10·3	0·0642	0·2276	11·8
7	42 21	10 11·9	0·0837	0·2587	12·1

The Spectrum of Comet 1917*a* (Mellish).—Prof. Frost reports that the spectrum of Mellish's comet, as observed at the Yerkes Observatory on March 21, showed a close resemblance to that of Morehouse's comet (Journ. R.A.S. Canada, vol. xi., p. 196). The cyanogen band 3883 and the blue carbon band, with its red edge at 4741, were strong, and there were other bands at 3914, 4017, and 5075. It may be remarked that the band 3914 was probably the negative band of nitrogen at that wave-length, while 4017 and 5075 would appear to be two of the bands of the low-pressure spectrum of carbon monoxide, these being especially characteristic of the tails of comets.

Effective Temperatures of Stars.—The values of stellar temperatures derived by Rosenberg from comparisons of the intensity at different wave-lengths in photographic spectra have been discussed by Dr. Wilsing (*Astronomische Nachrichten*, No. 4881). A new reduction of Rosenberg's observations has brought the results for stars of early type into much closer accordance with the Potsdam values, as will appear from the examples included in the following table:—

	Type	Rosenberg	Rosenberg corrected	Scheiner and Wilsing
		°	°	°
α Andromedæ ...	I.*a* 2	33,000	13,500	8,800
α Pegasi	I.*a* 2	27,500	12,200	13,600
γ Geminorum ...	I.*a* 2	16,000	10,000	11,800
α Aquilæ	I.*a* 3	10,500	7,700	7,700
η Bootis	II.*a*	5,500	4,700	5,200
γ Cygni	II.*a*	5,100	4,400	6,000
ε Bootis	II.*a*–III.*a*	5,300	4,500	4,200
α Bootis	II.*a*–III.*a*	3,100	2,800	3,600
β Andromedæ ...	II.*a*–III.*a*	2,650	2,400	3,000
α Orionis	III.*a*	2,200	2,000	3,000

Scheiner and Wilsing's values were based upon visual observations with a spectrophotometer.

THE FELLOWSHIP OF THE ROYAL SOCIETY.

In the annual report of the council of the Royal Society, adopted at a special general meeting in November last, certain changes in one of the statutes relating to the election of fellows were submitted. These changes were put forward after detailed deliberation by the council, and were based upon a report prepared by a committee appointed to consider the subject. Statute XII. of the society provides for the special election of persons who "either have rendered conspicuous service to the cause of science, or are such that their election would be of signal benefit to the society, provided that not more than two persons shall be so recommended in any one calendar year, and if two persons be elected in any one year there shall be no election in the following year."

By the new statute proposed by the council and adopted at the special meeting on November 2, 1916, the council could recommend to the society for election "(A) Privy Councillors whose election would assist the society; (B) men distinguished in the scientific or educational service of the State, or by their services to science and its applications, provided that (1) the number of fellows in Class A shall not exceed twenty-five at any time, including the fellows elected as Privy Councillors under the statutes in force before 1903; (2) the number of fellows in Class B shall not exceed twenty-five at any time not more than five being elected in any one year." As in the original statute, any person so recommended for election had to receive the votes of two-thirds of the members of council present, and the number of votes in his favour had to be not fewer than eleven.

In February last a memorial signed by a large number of fellows of the society was presented to the council asking that steps should be taken to consult